10/509009

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SEQUENCE LISTING.txt

SEQUENCE LISTING

 $<\!\!110\!\!>$ Novartis Forschungsstiftung, Zweigniederlassung Friedrich Miescher Institute for Biomedical Research

| for Biomedical Research | |
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| aaa Lys 305 | cag Gln | gtc Val | cgg Arg | gta Val | ccc Pro 310 | aag Lys | gag Glu | cag Gln | cac His | acc Thr 315 | tat Tyr | gac Asp | atc Ile | acc Thr | ggc Gly 320 | 960 |
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| gat Asp | ggg Gly | gag Glu | acc Thr | aag Lys 485 | gag Glu | aag Lys | gca Ala | gta Val | cca Pro 490 | aag Lys | gac Asp | cag Gln | agc Ser | agc Ser 495 | acc Thr | 1488 |
| gtt Val | ctc Leu | aca Thr | ggc Gly 500 | ctg Leu | aag Lys | cca Pro | gga Gly | gag Glu 505 | gcc Ala | tac Tyr | aaa Lys | gtc Val | ttt Phe 510 | gtg val | tgg Trp | 1536 |
| gct Ala | gag Glu | agg Arg 515 | ggc Gly | aac Asn | caa Gln | ggc Gly | agc Ser 520 | aag Lys | aaa Lys | gca Ala | gac Asp | acc Thr 525 | aag Lys | gcc Ala | ctc Leu | 1584 |
| aca Thr | gaa Glu 530 | att Ile | gac Asp | agt Ser | cca Pro | gaa Glu 535 | aac Asn | ctg Leu | gtg Val | act Thr | gac Asp 540 | cgg Arg | gtg val | aca Thr | gag Glu | 1632 |
| aac Asn 545 | agc Ser | ctc Leu | tct Ser | gtc Val | tcg Ser 550 | tgg Trp | gac Asp | cca Pro | gtg val | gag Glu 555 | gct Ala | gac Asp | atc Ile | gac Asp | agg Arg 560 | 1680 |
| tat Tyr | gtg Val | gta Val | agc Ser | tac Tyr 565 | act Thr | tcc Ser | gtg Val | gat Asp | gga Gly 570 | gag Glu | acg Thr | aag Lys | cag Gln | gtt Val 575 | cca Pro | 1728 |
| | | | | Glň | | | | gtc Val 585- | Leu | | ĞТУ | | | Pro | | 1776 |
| gtg val | gag Glu | tac Tyr 595 | aaa Lys | gtt Val | tac Tyr | gtg Val | tgg Trp 600 | gca Ala | gag Glu | aaa Lys | ggc Gly | gat Asp 605 | cgg Arg | gag Glu | agc Ser | 1824 |

| aag Lys | aag Lys 610 | gcc Ala | aac Asn | acc Thr | aag Lys | gct Ala 615 | ccc Pro | aca | gac | atc | gac | agc Ser | ccc | aaa Lys | aac Asn | 1872 |
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| gat Asp | gga Gly | gag Glu | aca Thr 660 | aga Arg | gag Glu | gtc Val | cca Pro | gtg Val 665 | cct Pro | aag Lys | gag Glu | aag Lys | agc Ser 670 | agt Ser | acc Thr | 2016 |
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| gcc Ala | cag Gln 690 | aag Lys | ggg Gly | acc Thr | cag Gln | gag Glu 695 | agc Ser | aga Arg | aag Lys | gcc Ala | aac Asn 700 | acc Thr | aag Lys | gcc Ala | ccc Pro | 2112 |
| aca Thr 705 | gat Asp | att' Ile | gat Asp | ggc Gly | ccc Pro 710 | aaa Lys | aac Asn | ctg Leu | gtg val | act Thr 715 | gac Asp | cag Gln | gtg Val | acc Thr | gag Glu 720 | 2160 |
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| gtg Val | gag Glu 770 | tac Tyr | aag Lys | gtg Val | gat Asp | gta Val 775 | tgg Trp | gcc Ala | cag Gln | aag Lys | ggg Gly 780 | gcc Ala | cag Gln | gac Asp | agc Ser | 2352 |
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| cca Pro | gta Val | gag Glu | gct Ala 820 | gac Asp | atc Ile | gac Asp | agg Arg | tat Tyr 825 | gtg Val | gtg Val | cgc Arg | tac Tyr | acc Thr 830 | tct Ser | gct Ala | 2496 |
| gat Asp | gga Gly | gag Glu 835 | acc Thr | agg Arg | gag Glu | att Ile | cca Pro- 840 | gtg Val | agg Arg | aag Lys- | gag -Glu | aag Lys 845 | agc Ser | agc Ser | act Thr | 2544 |
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Asp Ile Ser Ser Ser Pro Gln His Leu Leu Ala Thr Thr Asp Leu Ala 340 345 350 Val Leu Gly Thr Ala Trp Val Asn Glu Glu Thr Glu Thr Ser Leu Asp 355 360 365 Val Glu Trp Glu Asn Pro Leu Thr Glu Val Asp Tyr Tyr Lys Leu Arg 370 375 380 Tyr Gly Pro Leu Thr Gly Gln Glu Val Thr Glu Val Thr Val Pro Lys 385 390 395 400 Ser Arg Asp Pro Lys Ser Arg Tyr Asp Ile Thr Gly Leu Gln Pro Gly 405 410 415Thr Glu Tyr Lys Ile Thr Val Val Pro Ile Arg Gly Asp Leu Glu Gly 420 425 430 Lys Pro Ile Leu Leu Asn Gly Arg Thr Glu Ile Asp Gly Pro Thr Asn 435 440 445 Val Val Thr Asn Gln Val Thr Glu Asp Thr Ala Ser Val Ser Trp Asp 450 455 460 Pro Val Arg Ala Asp Ile Asp Lys Tyr Val Val Arg Tyr Ile Ala Pro 465 470 475 480 Asp Gly Glu Thr Lys Glu Lys Ala Val Pro Lys Asp Gln Ser Ser Thr 485 490 495 Val Leu Thr Gly Leu Lys Pro Gly Glu Ala Tyr Lys Val Phe Val Trp 500 505 510 Ala Glu Arg Gly Asn Gln Gly Ser Lys Lys Ala Asp Thr Lys Ala Leu 515 520 525 Thr Glu Ile Asp Ser Pro Glu Asn Leu Val Thr Asp Arg Val Thr Glu 530 535 540 Asn Ser Leu Ser Val Ser Trp Asp Pro Val Glu Ala Asp Ile Asp Arg 545 550 555 560 Tyr Val Val Ser Tyr Thr Ser Val Asp Gly Glu Thr Lys Gln Val Pro 565 570 575 Val Lys Lys Asp Gln Arg Ser Thr Val Leu Thr Gly Leu Ser Pro Gly 580 585 590 Val Glu Tyr Lys Val Tyr Val Trp Ala Glu Lys Gly Asp Arg Glu Ser 595 600 605 Lys Lys Ala Asn Thr Lys Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn 610 620 Leu Val Thr Asp Gln Val Thr Glu Asn Thr Leu Ser Val Ser Trp Asp 625 630 635 640 Pro Val Gln Ala Asn Ile Asp Arg Tyr Met Val Ser Tyr Thr Ser Ala 645 650 655 Asp Gly Glu Thr Arg Glu Val Pro Val Pro Lys Glu Lys Ser Ser Thr Page 8

Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Lys Val His Val Trp 675 680 685 Ala Gln Lys Gly Thr Gln Glu Ser Arg Lys Ala Asn Thr Lys Ala Pro 690 695 700 Thr Asp Ile Asp Gly Pro Lys Asn Leu Val Thr Asp Gln Val Thr Glu 705 710 715 720 Thr Thr Leu Ser Val Ser Trp Asp Pro Val Glu Ala Asp Ile Asp Arg 725 730 735 Tyr Met Val Arg Tyr Thr Ser Pro Asp Gly Glu Thr Lys Glu Val Pro
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| ttc a | | | | | | | | | | | | | | | | 288 |
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| gga g Gly V | gtc /al 130 | act Thr | gat Asp | cta Leu | agc Ser | cgc Arg 135 | cac His | tgc Cys | agc Ser | ggc Gly | cac His 140 | ggg Gly | acc Thr | ttc Phe | tcc Ser | 432 |
| ctg c Leu C 145 | gag Glu | acc Thr | tgc Cys | agc Ser | tgc Cys 150 | cac His | tgc Cys | gaa Glu | gag Glu | ggc Gly 155 | agg Arg | gag Glu | ggc Gly | ccc Pro | gcc Ala 160 | 480 |

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| ggc Gly | tac Tyr | ccg Pro 195 | gcc Ala | tgc Cys | cct Pro | gag Glu | aac Asn 200 | tgc Cys | agc Ser | gga Gly | cac His | ggc Gly 205 | gag Glu | tgc Cys | gtg Val | 624 |
| cgc Arg | ggc Gly 210 | gtg Val | tgc Cys | cag Gln | tgc Cys | cac His 215 | gaa Glu | gac Asp | ttc Phe | atg Met | tcg Ser 220 | gag Glu | gac Asp | tgc Cys | agc Ser | 672 |
| gag Glu 225 | aag Lys | cgc Arg | tgt Cys | ccc Pro | ggc Gly 230 | gac Asp | tgc Cys | agc Ser | ggc Gly | cac His 235 | ggc Gly | ttc Phe | tgt Cys | gac Asp | acg Thr 240 | 720 |
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| agc Ser | tac Tyr 290 | tac Tyr | ccc Pro | ctg Leu | ggg Gly | aag Lys 295 | gag Glu | ctc Leu | tct Ser | ggg Gly | aag Lys 300 | cag Gln | atc Ile | caa Gln | gtg Val | 912 |
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| | Arg | туг | Thr 915 | Ser | Ala | Asp | Gly | G1u 920 | SEQI Thr | JENC Arg | E Li | ISTI u Va | NG.tx il Pro 925 | val | Gly | / Lys | |
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Ser Arg Tyr Asp Ile Thr Gly Leu His Pro Gly Thr Glu Tyr Lys Ile 405 410 415 Thr Val Val Pro Met Arg Gly Glu Leu Glu Gly Lys Pro Ile Leu Leu 420 425 430 Asn Gly Arg Thr Glu Ile Asp Ser Pro Thr Asn Val Val Thr Asp Arg 435 440 445 Val Thr Glu Asp Thr Ala Thr Val Ser Trp Asp Pro Val Gln Ala Val 450 455 460 Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Asp Gly Asp Thr Lys 465 470 475 480 Glu Met Ala Val His Lys Asp Glu Ser Ser Thr Val Leu Thr Gly Leu 485 490 495 Lys Pro Gly Glu Ala Tyr Lys Val Tyr Val Trp Ala Glu Arg Gly Asn 500 510 Gln Gly Ser Lys Lys Ala Asp Thr Asn Ala Leu Thr Glu Ile Asp Ser 515 520 525 Pro Ala Asn Leu Val Thr Asp Arg Val Thr Glu Asn Thr Ala Thr Ile 530 535 540 Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Val Val Arg Tyr 545 550 555 560 Thr Ser Ala Asp Asp Glu Glu Thr Arg Glu Val Leu Val Gly Lys Glu 565 570 575 Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr Thr 580 585 590 Val His Val Trp Ala Gln Lys Gly Asp Arg Glu Ser Lys Lys Ala Asp 595 600 605 Thr Asn Ala Pro Thr Asp Ile Asp Ser Pro Lys Asn Leu Val Thr Asp 610 615 620 Arg Val Thr Glu Asn Met Ala Thr Val Ser Trp Asp Pro Val Gln Ala 625 630 640 Ala Ile Asp Lys Tyr Val Val Arg Tyr Thr Ser Ala Gly Gly Glu Thr 645 650 655 Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr Gly 660 665 670 Leu Arg Pro Gly Met Glu Tyr Met Val His Val Trp Ala Gln Lys Gly 675 680 685 Asp Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Asp Ile Asp Ser Pro Gln Asn Leu Val Thr Asp Arg Val Thr Glu Asn Met Ala Thr 705 710 715 720 Val Ser Trp Asp Pro Val Arg Ala Thr Ile Asp Arg Tyr Val Val Arg Page 18

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Tyr Thr Ser Ala Lys Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys
740 745 750 Glu Gln Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Val Glu Tyr 755 760 765 Thr Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala 770 775 780 Asp Thr Lys Ala Gln Thr Asp Ile Asp Ser Pro Gln Asn Leu Val Thr 785 790 795 800 Asp Trp Val Thr Glu Asn Thr Ala Thr Val Ser Trp Asp Pro Val Gln 805 810 815 Ala Thr Ile Asp Arg Tyr Val Val His Tyr Thr Ser Ala Asn Gly Glu 820 825 830 Thr Arg Glu Val Pro Val Gly Lys Glu Gln Ser Ser Thr Val Leu Thr 835 840 845 Gly Leu Arg Pro Gly Met Glu Tyr Thr Val His Val Trp Ala Gln Lys 850 855 860 Gly Asn Gln Glu Ser Lys Lys Ala Asp Thr Lys Ala Gln Thr Glu Ile 865 870 875 880 Asp Gly Pro Lys Asn Leu Val Thr Asp Trp Val Thr Glu Asn Met Ala 885 890 895 Thr Val Ser Trp Asp Pro Val Gln Ala Thr Ile Asp Lys Tyr Met Val 900 905 910 Arg Tyr Thr Ser Ala Asp Gly Glu Thr Arg Glu Val Pro Val Gly Lys 915 920 925 Glu His Ser Ser Thr Val Leu Thr Gly Leu Arg Pro Gly Met Glu Tyr 930 940 Met Val His Val Trp Ala Gln Lys Gly Ala Gln Glu Ser Lys Lys Ala 945 950 955 960 Asp Thr Lys Ala Gln Thr Glu Leu Asp Pro Pro Arg Asn Leu Arg Pro 965 970 975 Ser Ala Val Thr Gln Ser Gly Gly Ile Leu Thr Trp Thr Pro Pro Ser 980 985 990 Ala Gln Ile His Gly Tyr Ile Leu Thr Tyr Gln Phe Pro Asp Gly Thr 995 1000 1005 Val Lys Glu Met Gln Leu Gly Arg Glu Asp Gln Arg 1010 1015 1020 Phe Ala Leu Gln Gly Leu Glu Gln Gly Ala Thr Tyr Pro Val Ser Leu Val Ala 1025 1030 1035 Phe Lys Gly Gly Arg Arg Ser Arg Asn Val Ser Thr Thr Leu Ser 1040 1050

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SEQUENCE LISTING.txt
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1085 1090 1095
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Thr Asp Gly Gly Gly Trp Ile Val Phe Gln Arg Arg Asn Thr Gly 1100 1110
Gln Leu Asp Phe Phe Lys Arg Trp Arg Ser Tyr Val Glu Gly Phe 1115 1120 1125
Gly Asp Pro Met Lys Glu Phe Trp Leu Gly Leu Asp Lys Leu His
1130 1140
Asn Leu Thr Thr Gly Thr Pro Ala Arg Tyr Glu Val Arg Val Asp
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Leu Gln Thr Ala Asn Glu Ser Ala Tyr Ala Ile Tyr Asp Phe Phe
1160 1165 1170
Gln Val Ala Ser Ser Lys Glu Arg Tyr Lys Leu Thr Val Gly Lys
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Tyr Arg Gly Thr Ala Gly Asp Ala Leu Thr Tyr His Asn Gly Trp
1190 1200
Lys Phe Thr Thr Phe Asp Arg Asp Asn Asp Ile Ala Leu Ser Asn 1205 1215
Cys Ala Leu Thr His His Gly Gly Trp Trp Tyr Lys Asn Cys His 1220 1230
Leu Ala Asn Pro Asn Gly Arg Tyr Gly Glu Thr Lys His Ser Glu
1235 1240 1245
        Asn Trp Glu Pro Trp Lys Gly His Glu Phe Ser Ile Pro
1255 1260
Tyr Val Glu Leu Lys Ile Arg Pro His Gly Tyr Ser Arg Glu Pro
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